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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,642	06/22/2001	J. Scott Buchanan	2001B052	7135
23455	7590	06/01/2004	EXAMINER	
EXXONMOBIL CHEMICAL COMPANY			STOCKTON, LAURA	
P O BOX 2149			ART UNIT	PAPER NUMBER
BAYTOWN, TX 77522-2149			1626	

DATE MAILED: 06/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/887,642

Applicant(s)

BUCHANAN ET AL.

Examiner

Laura L. Stockton, Ph.D.

Art Unit

1626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 55 and 56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 55 and 56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1-13, 55 and 56 are pending in the application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13, 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buysch et al. {U.S. Pat. 4,434,105} and Chem Systems "Developments in Dimethyl Carbonate Production Technologies" 99/00S6, May 2000, each taken alone or in combination with each other.

Determination of the scope and content of the prior art (MPEP §2141.01)

Applicants claim a process of making dialkyl carbonate and a diol (e.g., ethylene glycol) from alkylene oxide (e.g., ethylene oxide), carbon dioxide and an aliphatic monohydric alcohol (e.g., methanol and ethanol)

comprising (a) reacting an alkylene oxide with carbon dioxide in the presence of a homogeneous carbonation catalyst (e.g., quaternary ammonium halides and alkali halides) to provide a crude cyclic carbonate; (b) directing crude cyclic carbonate stream into a second reaction zone; and (c) reacting said cyclic carbonate with an aliphatic monohydric alcohol in the presence of said homogeneous carbonation catalyst.

Buysch et al. '105 teach a process of making dialkyl carbonate (e.g. dimethyl carbonate) and a diol (e.g., glycol) by reacting alkylene oxides (e.g., ethylene oxide) with aliphatic and/or cycloaliphatic alcohols (e.g., methanol) and carbon dioxide in the presence of catalysts, such as sodium iodide, thallium carbonate, tetraethylammonium bromide or mixtures thereof (column 1, lines 45-68; column 2, lines 34-38 and lines 60-68; column 3, lines 1-23; and Examples 1, 11 and 12).

Chem Systems 99/00S6 (May 2000) {pages 26-31} teach a process of making dialkyl carbonate (e.g., dimethyl carbonate) and a diol (e.g., ethylene glycol) from alkylene oxide (e.g., ethylene oxide), carbon dioxide

and an aliphatic monohydric alcohol (e.g., methanol) comprising (a) reacting an alkylene oxide with carbon dioxide in the presence of a homogeneous carbonation catalyst (e.g., tetraethylammonium bromide and potassium iodide) to provide a crude cyclic carbonate and (b) reacting said cyclic carbonate with an aliphatic monohydric alcohol (e.g., methanol) in the presence of said homogeneous carbonation catalyst, such as a quaternary ammonium halides and alkali halides.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

The difference between the processes of the prior art and the process instantly claimed is that the prior art teach the addition of all ingredients at once instead of sequentially in two reaction zones as instantly claimed.

Finding of prima facie obviousness--rational and motivation (MPEP §2142-2413)

The addition of ingredients sequentially, as instantly claimed, instead of simultaneously, as taught in the prior art, is *prima facie*

obvious because one skilled in the art would expect to obtain a dialkyl carbonate and a diol.

One skilled in the art would have been motivated to utilize the processes taught by the prior art to arrive at the instant claimed process with the expectation of obtaining a dialkyl carbonate and a diol.

Since each of the above cited references teach similar processes, the combination of these references would also teach Applicants' claimed invention. The instant claimed process would have been suggested to one skilled in the art and therefore, the instant claimed process would have been obvious to one skilled in the art.

Response to Arguments

Applicants' arguments filed March 5, 2004 have been fully considered. Applicants argue that Buysch et al. and Chem Systems both fail to teach a process of making dialkyl carbonate and a diol comprising two reaction zones.

Applicants' argument has been considered but has not been found persuasive. Each of the prior art teach a process of making dialkyl carbonate and a diol. The only difference is the prior art teaches a single reaction zone whereas Applicants are claiming two reaction zones. Applicants have not demonstrated in a side-by-side showing of unexpected, beneficial and superior results of the instant claimed process over the processes taught in the prior art. Absent such showing, the instant claimed invention is found to have been obvious to one of ordinary skill in the art.

Conclusion

Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the

event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

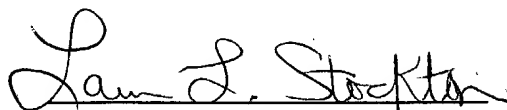
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura L. Stockton whose telephone number is (571) 272-0710. The examiner can normally be reached on Monday-Friday from 6:15 am to 2:45 pm. If the examiner is out of the Office, the examiner's supervisor, Joseph McKane, can be reached on (571) 272-0699.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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The Official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

A handwritten signature in black ink, reading "Laura L. Stockton". The signature is written in a cursive style with a horizontal line drawn across the middle of the name.

Laura L. Stockton, Ph.D.
Patent Examiner
Art Unit 1626, Group 1620
Technology Center 1600

May 26, 2004